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### Abstract

Traditionally, electrical and thermal energy is produced by a combustion process. Coal, fuel oil, and natural gas are common fuels used for electrical generation, while hydroelectric and nuclear are non-combustion processes. All fossil fuels release their stored energy and air pollution simultaneously when burned in a combustion process. To reduce or eliminate air pollution, the process of combustion to release stored energy must be changed to another type of process. Extracting pollution-free energy from fossil fuels can be accomplished through the electrochemical reaction of a fuel cell. This non-combustion process provides the foundation from which pollution-free energy emerges to fulfill our perpetual energy needs without further compromising the environment.